EXHIBIT F

PRESURVEY NOTIFICATION FORM

Applicant/Permittee's Mailing Address:
Tim Elfers
USGS Pacific Coastal and Marine Geology
2885 Mission Street
Santa Cruz, CA 95060

Date: 8/1/2018
Jurisdiction: Federal ____State _X_Both ___
If State: Permit #PRC 8394
Region: III
Area: Santa Cruz, CA

GEOPHYSICAL SURVEY PERMIT

Check one: __X__ New survey ____ Time extension of a previous survey

U.S.G.S. Pacific Coastal and Marine Science Center will conduct a geophysical survey offshore California in the survey area outlined on the accompanying navigation chart segment. If you foresee potential interference with commercial fishing or other activities, please contact the person(s) listed below:

FEDERAL WATERS (outside 3 nautical miles)

1) Applicant's representative: N/A
2) Federal representative: (e.g., Bureau of Ocean Energy Management [BOEM] or National Science Foundation [NSF])

NOTE: Any comments regarding potential conflicts in Federal waters must be received by the Applicant's Representative and lead Federal agency within ten (10) days of the receipt of this notice.

STATE WATERS (Inside 3 nautical miles)

1) Permittee's representative: Tim Elfers
2) CSLC representative: Richard Greenwood

NOTE: Any comments regarding potential conflicts in State waters should be received as soon as possible by the Permittee's representative, no more than fifteen (15) days after the receipt of this notice.

This notice is for one three-day survey performed between September 10, 2018 and November 1, 2018 to assess changes in seafloor morphology related to the pending closure of the Cemex sand mining operation in southern Monterey Bay. The survey will be conducted inside the proposed expected dates of operation based on tides and surf/weather conditions.

1. Hours of Operation: 7AM to 5PM
2. Vessel Names: Personal Watercraft - Jet Skis
3. Vessel Official Number: N/A
4. Vessel Radio Call Sign: None Assigned
5. Vessel Captain's Name: TBD
6. Vessel will monitor Radio Channel(s): 82a,16
7. Vessel Navigation System: Differential GPS
8. Equipment to be used:

1. Odom Echotrac Bathymetric Echo Sounder
   a. Frequency (Hz, kHz): 200 kHz
   b. Source level: (dB re 1 μPa at 1 meter (m) (rms): 93 dB RMS
   c. Number of beams, across track beam width, and along track beam width:
      1 beam, 9° conical beam. 5m along track, 5m across track
   d. Pulse rate and length: 4.5-13.5 pps at 34-500 μ seconds depending on water depth.
   e. Rise time: 7 μ seconds
   f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 uPa (rms) isopleths,
      190 dB: <1M ; 180 dB: <1M ; 160 dB: <1M

      These estimates are based on the underwater sound propagation equation:

      RSPL= SL-20log (R/Ro)-AR, where

      RSPL=received sound potential level

      SL= RMS source level re. 1 uPa (rms) based on manufacturer's specifications

      R= Distance

      Ro= Reference Distance (1 m)

      A= sound absorption coefficient

   g. Deployment depth: 0.25 m
   h. Tow speed: 4 knots
   i. Approximate length of cable tow: 0

Applicant's Representative:
Tim Elfers
US Geological Survey
2885 Mission Street
Santa Cruz, CA 95060
831-460-7479

California State Lands Representative:
Richard B. Greenwood
Statewide Geophysical Coordinator
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331
(562) 590-5201


0
2.5
5 km
USGS survey area
36.8°
36.7°
36.6°
-121.8°

The survey area is bounded by the coordinates:

Upper L: 36.814, -121.896
Lower L; 36.594, -121.896
Upper R: 36.814, -121.793
Lower R: 36.594, -121.793

The track line coordinates are:

Line Number	Start Line		End Line	
	LAT	LON	LAT	LON
1	36.80491	-121.79134	36.80609	-121.78841
2	36.80469	-121.79128	36.80558	-121.78825
3	36.80446	-121.79123	36.80517	-121.78809
4	36.80425	-121.79106	36.80469	-121.78799
5	36.80404	-121.79076	36.80421	-121.78792
6	36.80377	-121.79062	36.80375	-121.78798
7	36.80346	-121.79062	36.80336	-121.78812
8	36.80313	-121.79062	36.80295	-121.78824
9	36.80279	-121.79071	36.80248	-121.78838
10	36.80244	-121.79080	36.80203	-121.78851
11	36.80208	-121.79090	36.80158	-121.78864
12	36.80173	-121.79099	36.80113	-121.78877
13	36.80138	-121.79109	36.80067	-121.78890
14	36.80125	-121.79207	36.80026	-121.78913
15	36.80112	-121.79305	36.79984	-121.78936
16	36.80100	-121.79403	36.79943	-121.78959
17	36.80087	-121.79501	36.79901	-121.78981
18	36.80017	-121.79644	36.79814	-121.79025
19	36.79947	-121.79788	36.79727	-121.79069
20	36.79853	-121.79878	36.79648	-121.79107
21	36.79759	-121.79969	36.79569	-121.79144
22	36.79678	-121.80028	36.79481	-121.79169
23	36.79596	-121.80088	36.79393	-121.79195
24	36.79500	-121.80135	36.79305	-121.79217
25	36.79404	-121.80182	36.79217	-121.79239
26	36.79232	-121.80251	36.79041	-121.79286
27	36.79064	-121.80317	36.78870	-121.79360
28	36.78903	-121.80381	36.78698	-121.79433
29	36.78731	-121.80450	36.78522	-121.79480
30	36.78559	-121.80518	36.78346	-121.79534
31	36.78363	-121.80601	36.78173	-121.79587
32	36.78194	-121.80687	36.77997	-121.79638
33	36.77996	-121.80787	36.77823	-121.79688

34	36.77823	-121.80855	36.77647	-121.79734
35	36.77649	-121.80917	36.77470	-121.79780
36	36.77473	-121.80963	36.77294	-121.79825
37	36.77296	-121.81007	36.77115	-121.79860
38	36.77119	-121.81050	36.76937	-121.79895
39	36.76942	-121.81093	36.76757	-121.79919
40	36.76765	-121.81136	36.76580	-121.79960
41	36.76644	-121.81173	36.76396	-121.79991
42	36.76470	-121.81230	36.76219	-121.80036
43	36.76297	-121.81367	36.76046	-121.80104
44	36.76136	-121.81432	36.75875	-121.80170
45	36.76037	-121.81470	36.75786	-121.80197
46	36.75938	-121.81509	36.75697	-121.80223
47	36.75823	-121.81537	36.75614	-121.80226
48	36.75708	-121.81566	36.75531	-121.80230
49	36.75599	-121.81581	36.75440	-121.80239
50	36.75490	-121.81596	36.75348	-121.80249
51	36.75394	-121.81607	36.75258	-121.80260
52	36.75298	-121.81617	36.75168	-121.80271
53	36.75201	-121.81624	36.75078	-121.80282
54	36.75104	-121.81631	36.74989	-121.80292
55	36.74999	-121.81628	36.74898	-121.80302
56	36.74894	-121.81624	36.74808	-121.80311
57	36.74799	-121.81618	36.74725	-121.80320
58	36.74703	-121.81612	36.74642	-121.80329
59	36.74612	-121.81604	36.74552	-121.80333
60	36.74521	-121.81596	36.74462	-121.80338
61	36.74431	-121.81588	36.74372	-121.80339
62	36.74340	-121.81580	36.74281	-121.80341
63	36.74242	-121.81572	36.74193	-121.80342
64	36.74145	-121.81563	36.74104	-121.80343
65	36.74054	-121.81555	36.74014	-121.80345
66	36.73964	-121.81547	36.73923	-121.80347
67	36.73873	-121.81536	36.73833	-121.80353
68	36.73782	-121.81525	36.73743	-121.80359
69	36.73692	-121.81514	36.73653	-121.80365
70	36.73601	-121.81503	36.73563	-121.80371
71	36.73507	-121.81492	36.73475	-121.80417
72	36.73413	-121.81480	36.73387	-121.80463
73	36.73323	-121.81471	36.73297	-121.80475
74	36.73233	-121.81461	36.73207	-121.80487
75	36.73142	-121.81454	36.73117	-121.80499
76	36.73052	-121.81446	36.73027	-121.80511
77	36.72961	-121.81438	36.72938	-121.80525
78	36.72871	-121.81431	36.72848	-121.80538
79	36.72781	-121.81423	36.72758	-121.80549
80	36.72690	-121.81415	36.72668	-121.80561

81	36.72597	-121.81407	36.72578	-121.80559
82	36.72504	-121.81399	36.72488	-121.80557
83	36.72414	-121.81392	36.72398	-121.80555
84	36.72324	-121.81384	36.72308	-121.80554
85	36.72233	-121.81376	36.72217	-121.80552
86	36.72143	-121.81369	36.72127	-121.80550
87	36.72066	-121.81362	36.72035	-121.80548
88	36.71988	-121.81355	36.71943	-121.80546
89	36.71898	-121.81348	36.71853	-121.80555
90	36.71807	-121.81340	36.71764	-121.80563
91	36.71730	-121.81333	36.71672	-121.80579
92	36.71652	-121.81327	36.71581	-121.80596
93	36.71562	-121.81335	36.71492	-121.80612
94	36.71472	-121.81343	36.71403	-121.80629
95	36.71382	-121.81350	36.71314	-121.80645
96	36.71292	-121.81358	36.71224	-121.80661
97	36.71202	-121.81366	36.71135	-121.80670
98	36.71112	-121.81374	36.71045	-121.80679
99	36.71022	-121.81385	36.70955	-121.80688
100	36.70933	-121.81396	36.70865	-121.80696
101	36.70851	-121.81410	36.70774	-121.80709
102	36.70769	-121.81424	36.70683	-121.80722
103	36.70680	-121.81439	36.70594	-121.80740
104	36.70591	-121.81455	36.70505	-121.80758
105	36.70501	-121.81470	36.70416	-121.80776
106	36.70412	-121.81485	36.70327	-121.80794
107	36.70323	-121.81499	36.70238	-121.80811
108	36.70233	-121.81513	36.70149	-121.80829
109	36.70143	-121.81521	36.70060	-121.80846
110	36.70053	-121.81528	36.69971	-121.80863
111	36.69963	-121.81536	36.69882	-121.80881
112	36.69872	-121.81543	36.69793	-121.80898
113	36.69692	-121.81559	36.69616	-121.80938
114	36.69512	-121.81578	36.69439	-121.80982
115	36.69346	-121.81620	36.69260	-121.81026
116	36.69187	-121.81661	36.69082	-121.81074
117	36.69011	-121.81707	36.68906	-121.81124
118	36.68834	-121.81752	36.68731	-121.81174
119	36.68658	-121.81798	36.68555	-121.81225
120	36.68482	-121.81848	36.68379	-121.81275
121	36.68328	-121.81892	36.68201	-121.81326
122	36.68152	-121.81944	36.68023	-121.81404
123	36.67984	-121.82004	36.67854	-121.81449
124	36.67825	-121.82061	36.67679	-121.81512
125	36.67652	-121.82123	36.67509	-121.81587
126	36.67479	-121.82186	36.67339	-121.81661
127	36.67307	-121.82255	36.67169	-121.81735

128	36.67136	-121.82325	36.66999	-121.81809
129	36.66984	-121.82386	36.66826	-121.81882
130	36.66813	-121.82456	36.66655	-121.81953
131	36.66641	-121.82525	36.66486	-121.82032
132	36.66469	-121.82595	36.66319	-121.82116
133	36.66302	-121.82677	36.66152	-121.82200
134	36.66134	-121.82758	36.65985	-121.82283
135	36.65966	-121.82840	36.65818	-121.82367
136	36.65798	-121.82922	36.65650	-121.82451
137	36.65644	-121.82994	36.65483	-121.82536
138	36.65481	-121.83090	36.65317	-121.82626
139	36.65318	-121.83184	36.65152	-121.82716
140	36.65159	-121.83270	36.64987	-121.82806
141	36.65006	-121.83363	36.64820	-121.82897
142	36.64844	-121.83456	36.64655	-121.82987
143	36.64678	-121.83551	36.64490	-121.83077
144	36.64530	-121.83636	36.64328	-121.83175
145	36.64362	-121.83741	36.64166	-121.83273
146	36.64212	-121.83839	36.64007	-121.83378
147	36.64060	-121.83947	36.63844	-121.83486
148	36.63901	-121.84053	36.63686	-121.83592
149	36.63743	-121.84160	36.63530	-121.83705
150	36.63586	-121.84271	36.63375	-121.83818
151	36.63430	-121.84383	36.63219	-121.83931
152	36.63273	-121.84494	36.63063	-121.84044
153	36.63117	-121.84605	36.62908	-121.84157
154	36.62962	-121.84720	36.62752	-121.84269
155	36.62840	-121.84819	36.62606	-121.84383
156	36.62689	-121.84941	36.62445	-121.84516
157	36.62545	-121.85075	36.62299	-121.84647
158	36.62413	-121.85189	36.62155	-121.84782
159	36.62282	-121.85332	36.62009	-121.84919
160	36.62142	-121.85472	36.61869	-121.85061
161	36.62005	-121.85618	36.61730	-121.85204
162	36.61889	-121.85731	36.61591	-121.85349
163	36.61755	-121.85888	36.61454	-121.85499
164	36.61628	-121.86009	36.61319	-121.85648
165	36.61503	-121.86163	36.61192	-121.85806
166	36.61384	-121.86307	36.61064	-121.85964
167	36.61265	-121.86455	36.60942	-121.86131
168	36.61170	-121.86599	36.60828	-121.86313
169	36.61064	-121.86764	36.60717	-121.86490
170	36.60974	-121.86947	36.60613	-121.86672
171	36.60881	-121.87120	36.60513	-121.86858
172	36.60798	-121.87302	36.60418	-121.87054
173	36.60746	-121.87478	36.60339	-121.87255
174	36.60703	-121.87642	36.60262	-121.87449

175	36.60684	-121.87740	36.60228	-121.87562
176	36.60664	-121.87838	36.60193	-121.87675
177	36.60652	-121.87920	36.60167	-121.87779
178	36.60640	-121.88002	36.60141	-121.87884
179	36.60638	-121.88094	36.60125	-121.87994
180	36.60635	-121.88185	36.60108	-121.88104
181	36.60634	-121.88273	36.60097	-121.88216
182	36.60632	-121.88361	36.60086	-121.88329
183	36.60642	-121.88426	36.60090	-121.88448
184	36.60652	-121.88492	36.60094	-121.88567
185	36.60677	-121.88595	36.60105	-121.88699
186	36.60699	-121.88704	36.60119	-121.88806
187	36.60716	-121.88800	36.60136	-121.88926

EXHIBIT G

California State Lands Commission Presurvey Notice Requirements for Permittees to Conduct Geophysical Survey Activities

All parts of the Presurvey Notice must be adequately filled out and submitted to the CSLC staff a minimum of twenty-one (21) calendar days prior to the proposed survey date to ensure adequate review and approval time for CSLC staff. Note that one or more of the items may require the Permittee to plan well in advance in order to obtain the necessary documentation prior to the Notice due date (e.g., permits from other State or Federal entities). Please use the boxes below to verify that all the required documents are included in the Presurvey Notice. If "No" is checked for any item, please provide an explanation in the space provided. If additional space is needed, please attach separate pages.

Please use the boxes below to verify that all the required documents are included in the Presurvey Notice. If "No" is checked for any item, please provide an explanation in the space provided. If additional space is needed, please attach separate pages.

Yes	No	
X	☐	Geophysical Survey Permit Exhibit F
X	☐	Survey Location (including a full-sized navigation chart and GPS coordinates for each proposed track line and turning point) Explanation:_____
X	☐	Permit(s) or Authorization from other Federal or State agencies (if applicable) Explanation: *Monterey Bay National Sanctuary Permit # MBNMS-2014-029A, California State Parks permit*
X	☐	21-Day Written Notice of Survey Operations to Statewide Geophysical Coordinator/
X	☐	U.S. Coast Guard Local Notice to Mariners
X	☐	Harbormaster and Dive Shop Notifications Explanation:_____
X	☐	Marine Wildlife Contingency Plan Explanation:_____
X	☐	Oil Spill Contingency Plan Explanation:_____
☐	X	Verification of California Air Resources Board's Tier 2-Certified Engine Requirement Explanation: *Vehicle engines are gasoline fueled and exempt from Tier 2 Certification*
X	☐	Verification of Equipment Service and/or Maintenance (must verify sound output) Explanation:_____
☐	X	Permit(s) or Authorization from California Department of Fish and Wildlife for surveys in or affecting Marine Protected Area(s) (if applicable). Explanation: *Survey area is not within nearby Soquel Canyon or Portuguese Ledge MPAs*

._____

NOTE: CSLC staff will also require verification that current biological information was obtained and transmitted as outlined in Section 5 of this permit

Marine Wildlife Mitigation Plan
CEMEX – So. Monterey Bay Survey
Monterey Bay, CA.

(September 10 – November 1 2018)

1.0 INTRODUCTION

This marine wildlife mitigation plan is prepared in compliance with the USGS Pacific Coastal and Marine Science Center's existing State Geophysical Permit PRC 8394. This plan is intended to provide guidance to USGS vehicle operators and scientific field personnel collecting geophysical data for the Pacific Coastal and Marine Science Center (PCMSC) in Santa Cruz, CA to avoid significant impacts to marine wildlife that may occur during regular geophysical surveys.

1.1 Regulatory Basis

Species that are either currently in danger or soon likely to be in danger of extinction throughout all or a portion of its range are protected by the Endangered Species Act of 1973. The United States Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) implement the Endangered Species Act. During the consultation with NMFS to issue a permit for the offshore geophysical survey, it was determined no incidental take permits are required to use the equipment identified in this document to conduct scientific data acquisition in federal waters offshore of the California coast.

1.2 Geophysical Survey Purpose and Objectives

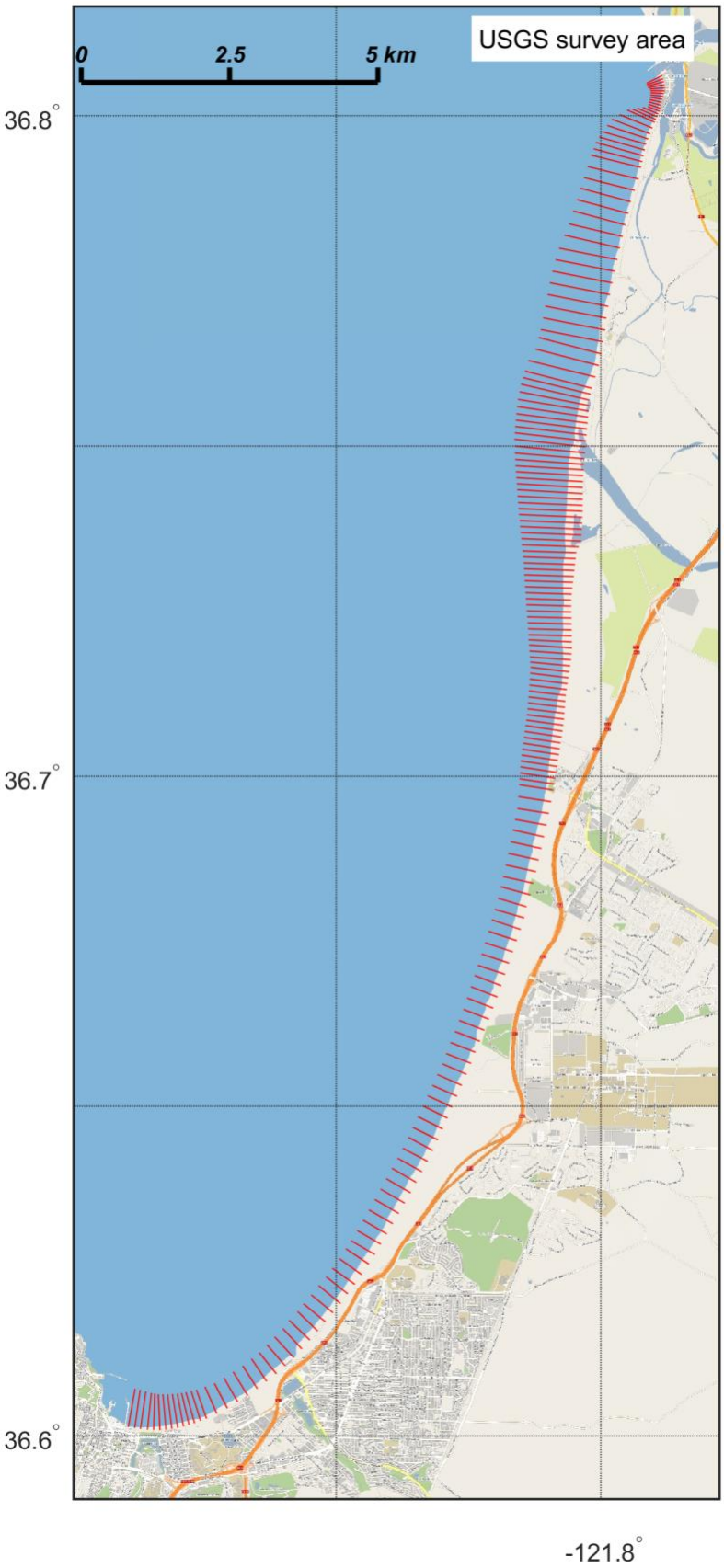
Bathymetric surveys will be performed with personal watercraft equipped with single-beam sonar and GNSS receivers. Surveys will be performed annually in the fall to assess the response of the coastal system to the closure of the Cemex sand-mining operation. Additionally, observed changes in sand distribution will be used to improve our understanding of processes responsible for coastal evolution and inform models used to predict future changes.

This work will allow the USGS to evaluate the important patterns, processes and effects of the geological systems in southern Monterey Bay, and this work would continue the beneficial research relationships between the USGS and the Monterey Bay National Marine Sanctuary (e.g., Eittreim et al., 2002; Storlazzi et al, 2007; Storlazzi et al., 2013). We are particularly interested in the effects of storms during El Nino winters (such as 2015-16), when seasonally higher water levels and larger waves have historically had significant impacts on the beaches in the region, and on the effects of major floods, which deliver new sediment to the coast, and on the effects of major wave events which redistribute new and existing sediments.

PCMSC will contact local whale-watching operations to acquire information on the current composition and relative abundance of marine wildlife offshore as well as any pinniped haul out sites. Whale activity is moderate at the moment. The peak whale season is February - May in the Monterey Bay. Lines near pinniped haul out sites will be surveyed only when

determining littoral drift rates and in constructing a sediment budget for the system.

Figure 1. Regional Map of Survey Area


USGS survey area
0
2.5
5 km
36.8°
36.7°
36.6°
-121.8°

2.0 Survey Equipment and Activities

Bathymetric mapping will utilize two USGS Coastal Profiling Systems (CPS), which consist of a personal watercraft instrumented with GPS-based mapping systems and fathometers (Figure 3a). The CPS are identical to the systems used in previously permitted research in the MBNMS (see Storlazzi et al., 2007). CPS are not operated in high surf (generally greater than 5 feet) or in difficult weather conditions such as fog or rain. All CPS operators are USGS employees, insured, and safety-certified by the U.S. Department of Interior.

PCMSC proposes to use the following equipment to collect the required data:

- Odom Echotrac CV100 echo sounder using a 200 kHz, 9° downward conical beam transducer

The proposed survey will require the use of a marine vehicle and in-water equipment that generate noise during data acquisition. The results of modeling of the noise generated by the survey equipment is shown in Table 1. Those results indicate that operational source level used for these surveys are less than 160 dB at any range.

Table 1. Distances to Received Pressure Levels from Equipment Sound Source

Sounder System	Frequency (kHz)	Source Level (dB peak)	Source Level (dB rms)	Distance toSL160 dBrms (meters)	Distance to SL 180 dB (rms) (meters)	Distance toSL190 dB (rms) (meters)
Odom Echotrac CV100 Echo Sounder	200 kHz	109	93	<1	<1	<1

These estimates are based on the underwater sound propagation equation:

RSPL= SL-20log (R/Ro)-AR where,
RSPL=Recieved sound potential level
SL= RMS source level re. 1 uPa (rms) based on manufacturer's specifications
R= Distance
Ro= Reference Distance (1 m)
A= sound absorption coefficient

The greatest distance from the sound source to the 160 dB level (<1 m) for the proposed equipment) is considered the "safety zone" for this equipment. However, because the operating frequency of 200 kHz is above the cutoff hearing threshold for marine mammals, CSLC has determined that the observance of the "safety zones" is not a requirement for this survey (personal communication, K. Keen, CSLC).

3.0 Marine Wildlife

3.1 Marine Wildlife

The following discusses the marine wildlife that have been recorded within the project region, those taxa that are most likely to be within the larger project region during survey operations, and methods that will be instituted by the vehicle operator to reduce or eliminate potential impacts to marine wildlife during transit and survey operations.

Table 2 provides information on the seasonal variations in the marine wildlife that are expected to be or have been reported within the Project area.

Table 2: Abundance Estimates for Marine Mammals and Reptiles of California Unless Otherwise Indicated

Common Name *Scientific Name*	**Population Estimate**	**Current Population Trend**
REPTILES		
Cryptodira		
Olive Ridley turtle *Lepidochelys olivacea*	1.39 million (Eastern Tropical Pacific)**	Increasing
Green turtle *Chelonia mydas*	3,319-3,479** (Eastern Pacific Stock)	Increasing
Loggerhead turtle *Caretta caretta*	1,000 (California)**	Decreasing
Leatherback turtle *Dermochelys coriacea*	178 (California)**	Decreasing
MAMMALS		
Mysticeti		
California gray whale *Eschrichtius robustus*	18,017 (Eastern North Pacific Stock)	Fluctuating annually
Fin whale *Balaenoptera physalus*	2,624 (California/Oregon/Washington Stock)	Increasing off California
Humpback whale *Megaptera novaeangliae*	1,878 (California/Oregon/Washington Stock)	Increasing
Blue whale *Balaenoptera musculus*	2,046 (Eastern North Pacific Stock)	Unable to determine
Minke whale *Balaenoptera acutorostrata*	202 (California/Oregon/Washington Stock)	No long-term trends suggested
Northern right whale *Eubalaena japonica*	17 (based on photo-identification) (Eastern North Pacific Stock)	No long-term trends suggested
Sei whale *Balaenoptera borealls*	83 (Eastern North Pacific Stock)	No long-term trends suggested
Odontoceti		
Short-beaked common dolphin *Delphinus delphis*	343,990 (California/Oregon/Washington Stock)	Unable to determine
Long-beaked common dolphin *Delphinus capensls*	17,127 (California Stock)	Unable to determine
Dall's porpoise *Phocoenoides dalli*	32,106 (California/Oregon/Washington Stock)	Unable to determine
Harbor porpoise *Phocoena phocoena*	1,478 (Morro Bay Stock)	Increasing

Pacific white-sided dolphin *Lagenorhynchus obllquldens*	21,406 (California/Oregon/Washington Stock)	No long-term trends suggested
Risso's dolphin *Grampus griseus*	4,913 (California/Oregon/Washington Stock)	No long-term trends suggested
Short-finned pilot whale *Globicephala macrorhynchus*	465 (California/Oregon/Washington Stock)	No long-term trends suggested
Bottlenose dolphin *Turslops truncates*	684 (California/Oregon/Washington Offshore Stock)	No long-term trends suggested
	290 (California Coastal Stock)	No long-term trends suggested
Northern right whale dolphin *LIssopelphis borealis*	6,019 (California/Oregon/Washington Stock)	No long-term trends suggested
Sperm whale *Physeter macrocephalus*	751 (California/Oregon/Washington Stock)	No long-term trends suggested
Killer whale Orcinus orca	85 (Eastern North Pacific Southern Resident Stock)	Decreasing
	162 (Eastern North Pacific Offshore Stock)	No long-term trends suggested
Pinnipedia		
California sea lion *Zalophus californianus*	141,842 (U.S. Stock)	Unable to determine; increasing in most recent three year period
Northern fur seal *Callorhinus ursinus*	5,395 (San Miguel Island Stock)	Increasing
Guadalupe fur seal *Arctocephalus townsendi*	3,028 (Mexico Stock) Undetermined in California	Increasing
Northern (Steller) sea lion *Eumetopias jubatus*	2,479 California Stock	Decreasing
Northern elephant seal *Mirounga angustirostris*	74,913	Increasing
Pacific harbor seal *Phoca vitulina richardsi*	31,600	Stable
Fissipedia		
Southern sea otter *Enhydra lutris nereis*	2,711*	Unable to determine

Estimates provided by National Marine Fisheries Service (NOAA Fisheries 2011) *

Estimate provided by USGS (2010)

** Estimates provided by National Marine Fisheries Service (NMFS) (2004), Marquez, et al. (2002), Eguchi et ai. (2007), Benson et al. (2007), and NMFS (2007). Estimates are based on number of current numbers of nesting females.

During the transit periods, there is a potential for encountering marine wildlife. Table 3 lists those species that are likely to occur in the survey area

Table 3. Marine Wildlife Species and Most Likely Periods of Occurrence within the Survey Area

Family Common Name	Month of Occurrence [1]											
	J	F	M	A	M	J	J	A	S	O	N	D
REPTILES												
Cyptodira												
Olive Ridley turtle *(T)* [2]												
Green turtle (T)[1],[2]												
Loggerhead turtle (T) [2]												
Leatherback turtle (E) [2]												
MAMMALS												
Mysticeti												
California gray whale												
Blue whale (E)												
Fin whale (E)												
Humpback whale (E)												
Minke whale												
Sei whale (E)												
Northern right whale (E)												
Odontoceti												
Short-beaked common dolphin												
Dall's porpoise												
Harbor porpoise												
Long-beaked common dolphin												
Pacific white-sided dolphin												
Risso's dolphin												
Sperm whale												
Short-finned pilot whale												
Bottlenose dolphin												
Northern right whale dolphin												
Killer whale												
Pinnipedia												
Northern fur seal [3]												
California sea lion												
Northern elephant seal [4]												
Pacific harbor seal												
Guadalupe fur seal (T)												
Steller sea lion												
Fissipedia												
Southern sea otter (T) [5]												
Relatively uniform distribution		Not expected to occur					Most likely to occur due to seasonal distribution					

(E) Federally listed endangered species.
(T) Federally listed threatened species.
(1) Not Used
(2) Rarely encountered, but may be present year-round. Greatest abundance during July through September.
(3) Only a small percent occur over continental shelf (except near San Miguel rookery, May-November).
(4) Common near land during winter breeding season and spring molting season.
(5) Only nearshore (diving limit 100 feet).
Sources: Bonnell and Dailey (1993), NOAA Fisheries (2011), NCCOS (2007)

4.0 ONBOARD MITIGATIONS

4.1 Fishing Gear Clearance

In addition to submitting the required Notice to Mariners that will advise commercial fishers of pending on-water activities, prior to the start of each survey day the vehicles will traverse the proposed survey corridor for that day to note and record the presence of deployed fishing gear. No survey lines within 30 m (100 ft) of the observed fishing gear will be completed. The survey crew will not remove or relocate any fishing gear; removal or relocation will only be accomplished by the owner or by an authorized CDFW agent.

4.3 Marine Wildlife Monitoring

NOAA does not require exclusion/safety zones to be monitored. The operational source level for these survey operations is 93 dB RMS at 200 kHz, well below the maximum 160 dB sound level considered safe for operating in the proximity of marine mammals. Because there is only one CPS operator on board the survey vehicle during survey operation, their primary responsibilities during survey operations is the safe operation of the vehicle and operation of the data acquisition system, it is not possible for them to log wildlife observation data. However, the operator will provide a narrative of any sightings or encounters with marine wildlife during the day's survey operations and these narratives will be provided in the summary report for each survey.

4.3 Mitigations During Transit and Survey

The research vehicles will transit during daylight hours from Moss Landing harbor. During transits, there is a potential for encountering marine wildlife and the vehicle operators will take every precaution to avoid close proximity to wildlife. During transits, the vehicle will maintain a minimum distance of 100 m (1,640 ft.) from observed animals. If the vehicle operator observes a marine mammal within the path of the transiting vehicle, they will immediately slow the vehicle and/or change course in order to avoid contact.

Cetaceans (whales) vary in their swimming patterns and duration of dives and therefore all shipboard personnel will be watchful as the vehicle crosses the path of a whale or anytime whales are observed in the area.

If whales are observed during transits, the vehicle operator will institute the following measures:

- Maintain a minimum distance of 100 m from sighted whales;
- Do not cross directly in front of or across the path of sighted whales;
- When transit directions is parallel to whale path, maintain constant speed that is not greater than the whales speed, or alter transit direction away from whale path;
- Do not position the vehicle in such a manner to separate female whales from their

calves;

- If a whale engages in evasive or defensive action, slow the vehicle and move away from the animal until the animal calms or moves out of the area.

During survey operations, the vehicle will maintain survey a speed of approximately 4 knots and will maintain a heading that coincides with survey track lines. If marine wildlife is observed within the vicinity of the vehicle, the vehicle operator will take precautions to avoid collision, ending and restarting the track line survey if necessary.

If a collision with marine wildlife occurs, the vehicle operator will document the conditions under which the accident occurred, including the following:

- Location of the vehicle when the collision occurred (latitude and longitude);
- Date and time;
- Speed and heading of the vehicle;
- Observed conditions (e.g., wind speed and direction, swell height, visibility in miles or kilometers, and presence of rain or fog);
- Species of marine wildlife contacted; and
- Organization, vehicle ID and name of master in charge of the vehicle at time of accident.

In accordance with NOAA requirements, after a collision, the vehicle should stop, if safe to do so. The vehicle may proceed after confirming that it will not further damage the animal by doing so. The vehicle will then communicate by radio or telephone all details to the vehicle's base of operations. The PCMG Marine Operations Superintendent will contact the Stranding Coordinator, NMFS, Southwest Region, Long Beach, to obtain instructions. Alternatively, the vehicle captain may contact the NMFS Stranding Coordinator directly using the marine operator to place the call or directly from an onboard telephone, if available to:

NOAA Southwest Regional Stranding Coordinator
National Marine Fisheries Service
501 West Ocean Blvd, Suite 4200
Long Beach, CA 90802-4213
562-980-4017
Contact: Justin Viezbicke
Email: justin.viezbicke@noaa.gov

It is unlikely that the vehicle will be asked to stand by until NOAA or CDFW personnel arrive, however this will be determined by the Stranding Coordinator. According to the MMPA, the vehicle operator is not allowed to aid injured marine wildlife or recover the carcass unless requested to do so by the NOAA Stranding Coordinator.

Although NOAA has primary responsibility for marine mammals in both state and federal waters, the CDFG will also be advised that an incident has occurred in state waters affecting a protected species. Reports should be communicated to the federal and state agencies listed below:

Federal	**State**	**State**
Justin Viezbicke, California Stranding Coordinator National Marine Fisheries Service Long Beach, California (562) 980-4017	Enforcement Dispatch Desk California Department of Fish and Wildlife Long Beach, California (562) 590-5132	California State Lands Commission Division of Environmental Planning and Management Sacramento, California (916) 574-1938

4.4 Operational Measures

Soft Start

The soft-start technique required for sonar equipment operating above the hearing threshold for marine mammals at 200 kHz is predicated on research investigations of low frequency side lobes for 200 kHz sonar systems (Deng et al., 200 kHz Commercial Sonar Systems Generate Lower Frequency Side Lobes Audible to Some Marine Mammals, PLOS ONE, 2014). This work was based on a measured 90 kHz sub harmonic at 141 dB re. 1µPA @ 1m generated by a 200 kHz sonar signal at 195 dB re. 1µPA @ 1m and a marine mammal hearing threshold of 70 dB . Modeling of our system's equivalent source levels based on their measurements, our echo sounder would generate a 90 kHz harmonic at 69 dB re. 1µPA @ 1m, which is below the hearing threshold of concern, within 1 m from the vehicle. We conclude from this that a soft start technique has no practical application for our survey operations. However, we nonetheless intend to take a conservative approach by increasing power upon startup at a 25% increase in power from zero to our operational power level of 93 dB over a five minute period.

Wildlife Monitoring

Marine wildlife monitoring will not be required by onboard personnel for these operations, but the operator will provide a narrative of any observations that occur within the survey area.. Because the survey echo sounder operated above 200 kHz, no safety zone is required. However, USGS will take the following precautionary measures:

- Not approach within 91 m of the haul-out site (consistent with NMFS guidelines);
- Expedite survey activity in this area in order to minimize the potential for disturbance of pinnipeds on land;
- Pinniped haul out site location is given in Table 4.
- The vehicle will continuously monitor the daily survey area to ascertain the presence, species and location of any marine wildlife is apparent in the intended survey area. The

vehicle master and onboard personnel will be watchful whales or marine mammals are observed in the area. The vehicle operator shall observe the following guidelines:

- Make every effort to maintain distance from sighted marine mammals and other marine wildlife;
- Do not cross directly in front of (perpendicular to) migrating whales or any other marine mammal or turtle;
- When paralleling marine mammals or turtles, the vehicle will operate at a constant speed that is not faster than that of the animals;
- Care will be taken to ensure female whales are not separated from their calves; and, if a whale engages in evasive or defensive action, the vehicle will reduce speed or stop until the animal calms or moves out of the area.

Table 4 Pinniped Haul Out Locations

LOCATION	SPECIES	LATITUDE	LONGITUDE
Point Santa Cruz, Santa Cruz, CA	California Sea Lion	36.95	-122.03
Soquel Point, Santa Cruz, CA	California Sea Lion	36.95	-122.98
Cement Ship, Aptos, CA	California Sea Lion	36.97	-122.91

Vehicle Speed

The CPS operator will refrain from erratic operating behavior when transiting to the survey site and shall operate at, or less than, a speed of approximately 4 knots once on survey station.

Limitations on equipment usage

Limitations on the frequency, pulse length, and pulse rate will be implemented to reduce potential harmful noises. The shortest possible pulse length and lowest pulse rate (pings per second) will be used, dependent on water depth.

4.5 Monitoring Reporting

A Post Survey Field Operations and Compliance Report will be submitted to CSLC staff as soon as possible but no more than 30 days after the completion of survey activities.

U.S. GEOLOGICAL SURVEY
PACIFIC COASTAL AND MARINE GEOLOGY SCIENCE CENTER

GEOPHYSICAL SOUND SOURCE SYSTEMS MAINTENANCE RECORD

Odom Echotrac CV-100 Echo Sounder - 200 kHz Serial # 26067

1.0 Introduction

The USGS Pacific Coastal and Marine Science Center (PCMSC) owns and operates a broad range of geophysical sound sources, seafloor mapping systems, geologic and geotechnical sediment sampling systems, and oceanographic instrument systems. This requires considerable technical and operational support to successfully undertake and complete its field programs. Operational and technical support for these systems is provided by the PCMG Marine Operations Facility (Marfac) in Santa Cruz, CA. Our Marfac group is staffed by a team of ten ocean engineers, electronics technicians, and marine engineering technicians. They operate, maintain and repair all geophysical and oceanographic systems used to support all of PCMGSC's scientific field operations.

The Odom Echotrac ECTV-100 echo sounder is owned and operated by PCMSC. This system has been thoroughly checked, tested and calibrated according to the manufacturer's (Teledyne Odom) recommended procedures. This system is comprised of the Echotrac CV-100 Acquisition Controller/Power supply (Serial # 26067) and a 200 kHz transducer, Model # SMBB200-9. The results of this evaluation confirm the echo sounder system to be operating at Teledyne Odom's stated specifications in all regards.

System checkout includes physical inspection of all components, cables, connectors and electronics for any signs of corrosion, wear or damage, all necessary cleaning and full functionality checks.

These procedures were followed by a full at-sea check of all system parameters in order to confirm system performance meets specs. The Odom Echotrac CV-100 is fully compliant with Teledyne Odom stated capabilities and specifications.

Tim Elfers, Marine Operations Manager

8/10/2018

Date

U.S. GEOLOGICAL SURVEY
PACIFIC COASTAL AND MARINE GEOLOGY SCIENCE CENTER

GEOPHYSICAL SOUND SOURCE SYSTEMS MAINTENANCE RECORD

Odom Echotrac CV-100 Echo Sounder - 200 kHz Serial # 26331

1.0 Introduction

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System checkout includes physical inspection of all components, cables, connectors and electronics for any signs of corrosion, wear or damage, all necessary cleaning and full functionality checks.

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8/10/2018

Date

U.S. GEOLOGICAL SURVEY
PACIFIC COASTAL AND MARINE GEOLOGY SCIENCE CENTER

MANAGEMENT OF ACCIDENTAL DISCHARGE AND VESSEL INCIDENTS DURING OFFSHORE GEOPHYSICAL SURVEYS

1.0 INTRODUCTION

The survey operations will be conducted using two USGS personal watercraft (jet skis) that comprise our Coastal Profiling Systems (CPS). Because of the vehicle's small size, it is anticipated that response to any operational spills will be quickly identified and response will be initiated quickly and efficiently by the vehicle operator. Oil spills in United States (U.S.) marine waters shall be reported immediately.

2.0 OPERATIONAL SPILLS

Operational spills might involve one or more of the following substances carried on board the vehicles: (i) fuel and (ii) lube oil. The vehicles are equipped with woven polypropylene sheets (5 sheets) for rapid absorption of surface oil and protective gloves (1 pair), and a disposal bag (1) This oil spill materials are located in the forward cabinet of the vehicle. This spill kit is rated to clean up .25 gallons of liquid. All of the liquids (listed below) that could cause a hazardous spill are either in the fuel tank or in the vehicle engine. Spill occurrence will likely be during fueling, in the event of grounding or if any instance occurred that punctured the gas tank. In the event a spill occurred in the engine compartment, the oil spill kit would be used to contain the hazardous liquids and the bilge would not be emptied until it could be pumped out at a hazardous waste facility. We do not anticipate a spill of greater than .25 gallons.

(i) Fuel:

A spill kit shall be available for use in the event of a spill. If the fuel is spilled on the deck, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

(ii) Lube oil:

A spill kit shall be available for use in the event of a spill. If the oil is spilled in the machinery space, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vehicle operator shall notify the Coast Guard and port facility.

3.0 EMPLOYEE TRAINING ON OIL SPILL CONTINGENCY PLAN

Prior to the launching of the vessel for any activities, all captain and crew members on the vessel will have read the Oil Spill Contingency Plan, understand procedures to be implemented in the event of an oil spill, and know where the oil spill kit is located on the vessel.

4.0 VESSEL FUELING

All vessel fueling will be conducted at an approved docking facility. No cross vessel fueling will be performed. Appropriate spill avoidance measures during filling procedures will be observed. Refueling of the CPS is not allowed at the shoreline unless there is a compelling reason to do so and sufficient spill response equipment to address a spill is on site (i.e., sorbent and containment materials equal to approximately one-third the capacity of the fuel tank).

5.0 PRIORITY ACTIONS TO ENSURE PERSONNEL AND VESSEL SAFETY

Safety of vehicle operators and the vehicles are paramount. In the event that a crewman's injuries require outside emergency assistance, the PCMG safety officer shall be contacted immediately and emergency personnel contacted. While awaiting emergency assistance, the on board vessel master or qualified vessel crew personnel will render first aid and/or CPR. The nearest emergency medical facilities for this area is:

Dominican Hospital Emergency Department
1555 Soquel Dr, Santa Cruz, CA 95065
(831) 462-7710

6.0 MITIGATING ACTIVITIES

If safety of both the vessel and the personnel has been addressed, the vessel master shall care for the following issues:

- Assessment of the situation and monitoring of all activities as documented evidence.
- Care for further protection of the personnel, use of protective gear, assessment of further risk to health and safety.
- Containment of the spilled material by absorption and safe disposal within leak proof containers of all used material onboard until proper delivery ashore, with due consideration to possible fire risk.
- Decontamination of personnel after finishing the cleanup process.

7.0 EMERGENCY CONTACTS FOR STATE AND FEDERAL AGENCIES

Emergency numbers for U.S.C.G. for the San Francisco and Central Coast Areas are:

Pacific SAR Coordinator - Alameda: 510-437-3700

Rescue Coordination Center, Alameda: 510-437-3700

Any oil spill in U.S. marine waters shall be reported immediately to the following state and agencies:

West Coast Oil Spill hot-line	800-OELS-911, *or*
Department of Fish and Game CalTIP	888-CFG-CALTip
(Californians Turn In Poachers & Polluters)	(888-334-2258). *and*
U.S. Coast Guard National Response Center	800-424-8802
California Office of Emergency Services (OES)	800-OILS-911 or 800-852-7550.

During the phone call, the following information will be given over the phone.

a. Name and telephone number of caller.
b. Spill location
c. What was spilled (oil, gas, diesel, etc.)
d. Estimated size of spill
e. The date & time spill was identified (same day).
f. Any oiled or threatened wildlife
g. Source of spill, if known
h. Activity observed at the spill site

After taking the necessary actions, the spill will be reported in writing to the Governor's Office of Emergency Services on their forms.

Additionally, California Department of Fish and Game certified wildlife rescue/response organizations will be contacted about the spill. In the Southern California area, these include the following contacts:

Oiled Wildlife Care Network	Animal Advocates
1-877-UCD-OWCN	323-651-1336
California Wildlife Center	South Bay Wildlife Rehab
310-458-9453	310-378-9921

Keen, Kelly@SLC

From: Elfers, Timothy <telfers@usgs.gov>
Sent: Tuesday, August 14, 2018 8:47 AM
To: tascuba@live.com; info@montereybaydiving.com; dive@silverprincecharters.com; dive@aquarius2.com; David Todd; info@aquariusdivers.com; info@asudoit.com
Cc: Keen, Kelly@SLC; Greenwood, Richard@SLC; Joanne C. Ferreira
Subject: PRE SURVEY NOTIFICATION FOR GEOPHYSICAL SURVEY - Harbor Maters
Attachments: CSLC EXHIBIT F - Cemex 2018.docx

PRE SURVEY NOTIFICATION FOR GEOPHYSICAL SURVEY

The USGS Pacific Coastal and Marine Science Center (PCMSC) will be conducting one three-day near shore geophysical survey from Moss Landing to Monterey under California State Lands Permit #8394. A bathymetric survey using two personal watercraft, each equipped with a 200 kHz single beam echo sounder, will conduct cross shore transects from within the surf zone out to 1200m from shore to document the effects of large wave events on seafloor morphology. The three-day operation will occur between **September 10 and November 1st, 2018** during day-light hour high tide when weather and seas permit.

In keeping with our California State Lands Permit requirements, we are providing you with the attached Geophysical Pre-Survey Notice for your information.

--
Tim Elfers

Marine Operations Manager
U.S. Geological Survey
Pacific Coastal Marine Science Center

Marine Facility
2831 Mission St
Santa Cruz, CA 95060

831-460-7479 office
831-332-9665 cell
831-421-9209 fax

Keen, Kelly@SLC

From: Elfers, Timothy <telfers@usgs.gov>
Sent: Tuesday, August 14, 2018 8:48 AM
To: SLCOGPP@SLC; D11LNM@uscg.mil; andrew.w.phelan@uscg.mil; Keen, Kelly@SLC; Greenwood, Richard@SLC
Cc: Joanne C. Ferreira
Subject: PRE SURVEY NOTIFICATION FOR GEOPHYSICAL SURVEY - Geophysical coordinator
Attachments: CSLC EXHIBIT F - Cemex 2018.docx

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Keen, Kelly@SLC

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Sent: Tuesday, August 14, 2018 8:47 AM
To: razzeca@mosslandingharbor.dst.ca.us; mcintyre@mosslandingharbor.dst.ca.us; lmarshall@santacruzharbor.org; haynes@monterey.org
Cc: Keen, Kelly@SLC; Greenwood, Richard@SLC; Joanne C. Ferreira
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